

In search of digital feminisms: *Digital Gender & Aesthetic Technology*

Sol Morén

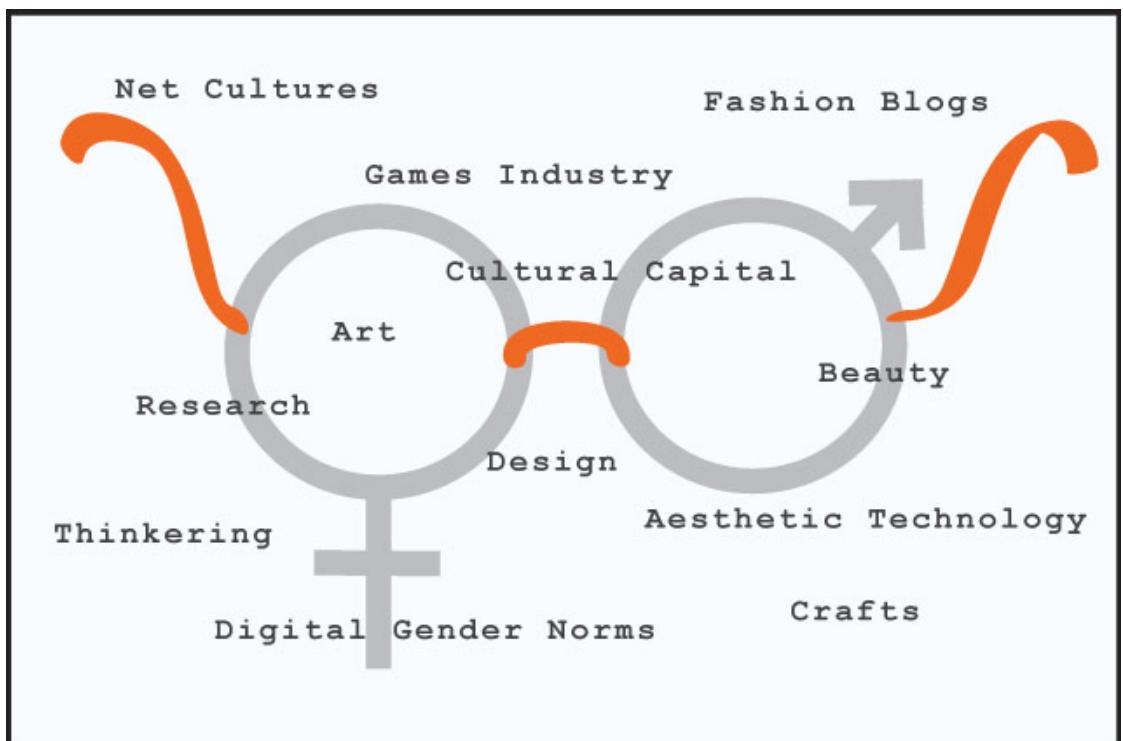


Fig. 1 - Gender Goggles, 2012, Sol Morén, Digital image, © Sol Morén. (Used with permission.)

Abstract

What is it that influences girls' choices of new technology? How is digital creativity affected by gender norms? "Digital Gender & Aesthetic Technology" aims to make visible females as creative developers of the Internet and new technology, through interviews with students, artists, project managers, and entrepreneurs. The prevailing social norms appear to be reflected on the Internet as "digital gender norms," where girls and boys prefer apparently different communication tools. While working with the question of "digital gender," I have developed the hypothesis of "Aesthetic Technology," namely that girls often have an artistic approach towards technology. Girls mainly learn technology for a personal reason, planning to create something once they have learned the technique, and their goal often have aesthetic preferences. The question of girls "becoming technical," is more complicated than one might first think, in relation to gender. Even though young girls are often just as interested in technology as young boys are, it is difficult for them to keep or adapt their technical interest to normative femininity in their teens. Another problem is that expressions of technical competence or innovation, which do not correspond to the predominant male norm, might be hard to recognize. Females who study within the field of creative digital technology often begin their career by struggling with questions of equality, instead of just practicing their profession.

Digital Gender

Fashion blogs or forums for game development on the Internet - which shall I choose? The question may appear to be superfluous - of course I will choose the sites that contain information and discussions about the topic I am most interested in, whether it is fashion or game development. But what happens if a girl becomes interested in game

development, when there are basically only boys on the game development sites? And what would happen to a boy who started his own fashion blog? What would his friends say?

The questions that arise are not unique to the Internet; the same pattern or problem is also found in *homosocial* contexts "in real life" [IRL]. The problem is seen distinctly on the Internet because the Net is supposed to be a, using the term of American social and literary critic Katherine N. Hayles, "disembodied" social meeting place and to some extent thought of as an arena where it ought to be easier for us to put our gender, age and cultural identity aside in order to treat each other more equally. [1] During the early days of the Internet's development, such utopian hopes were expressed by feminist researches like Sherry Turkle and Donna Haraway. [2] However, contemporary Swedish studies have shown that our behaviour on the Internet is not very different from our behaviour in the real/physical world. [3]

The way we behave when communicating on the net though, even when we are not physically visible or audible, can reveal more about our identity than we ourselves can imagine. [4] Social codes that we are not even aware of can expose us. The symbolic or cultural capital, "habitus," which, according to the French sociologist Pierre Bourdieu we can never escape from, affects our options for choosing which roles we are able to take on in a convincing way, both on the Internet and in a physical setting. [5] The question of which places on the Internet we can conquer and make our own is therefore more complicated than simply being a matter of our interests; different social norms, such as gender norms, are of significance for our freedom of choice.

According to Haraway, as a researcher, it may be difficult to see anything other than the patterns or pictures you expect to find, so in order to make the invisible visible, one must perhaps also make the actual seeing visible. [6] This is why norm critical theories and postmodern feminist analysis have become so important for the analysis and problematizing of my work. [7] According to postmodern feminist theory, based on American philosopher Judith Butler's theories of "performativity," one of the fundamental thoughts behind the term "gender" is that identity is negotiable and is formed and created through everyday actions that are continually repeated, as we "do gender." [8] When someone breaches gender norms, we often find it provocative. In particular, men who deviate from male gender stereotype patterns are often subjected to comments about a presumed non-heterosexual orientation. [9] This may be seen as an example of how our culture's heteronormativity affects our freedom of choice when it comes to interests or professions through the identity-forming process. [10] This might explain why there are hardly any male fashion bloggers.

One fundamental idea within contemporary gender theory is that we create differences between the sexes, by categorizing male and female characteristics in opposition to each other. [11] It may seem strange that an interest in fashion or technology should be linked to gender and ultimately to sexuality but when we "do gender" we use "the principle of keeping apart" in order to set up a "gender order." [12] For example, according to "gender order logic," being technical is a male trait-as long as it is not a female trait. If more women would become "technical," there is a risk that the gender order or the "dichotomist order" will begin to break up. By the same logic, a prerequisite of masculinity is that a man is "not a woman." Distancing oneself from anything that can be associated with femininity is a way of "doing" male gender. [13]

Why are girls attracted by seemingly different forms of socializing and communication on the Internet than boys are? According to the facts that emerged through the statistical investigations of what young people do on the Internet, conducted regularly by the Swedish

Media Council, girls who use the Internet are more focused on communication, although this is a conclusion that could be challenged. [14] Being active in blogs and in social forums is one way of communicating, but playing games online could also be seen as a form of communication. Socializing through online gaming is generally done in real-time, where communication is direct and ephemeral. [15] In contrast, words or pictures on a blog remain, requiring more consideration by the person who is communicating. It would appear that it is more common for girls, than for boys, to consider in advance how the things one says and does will be perceived by others. [16] Perhaps it is a reflection of gender norms that, according to Swedish Internet statistics, more girls than boys write blogs while more boys than girls prefer to play or develop games on the Internet. [17]

In order to find out more about digital gender norms and how young women view themselves as the producers of pictures on the Internet, in the spring of 2010, I began to interview girls studying the aesthetic secondary school programs about their use of photography in blogs. [18] To gain a deeper and wider perspective of the significance of gender in regards to creative girls' entry into the field of digital technology, in the autumn of 2010 I continued the research by interviewing two university students and five women who all worked professionally in the field of digital technology. Two of the participants were studying fine art, one was a game designer and researcher; one worked as a photographer and pedagogue; one was a sound artist; two worked as project managers within digital culture and media.

Blog norms

According to the secondary girls I interviewed, fashion bloggers are young girls who can earn money on their blogs because many people follow them. The girls I interviewed expressed respect for certain fashion bloggers, for instance, those who blogged about design rather than just about fashion, and who expressed themselves in a personal way. Other fashion bloggers were described with some contempt because they appeared superficial, self-centred, and provocative. These attributions seem to be linked to the "normative feminine ideals," identified by the English anthropologist Beverly Skeggs in her studies of how young girls behave in order to become "respectable." [19] A few of these female ideals are moderation, control, empathy, and caution. Some of the bloggers seem to live up to these ideals while other bloggers appear to provoke them in a challenging way, which can bring on different kinds of attention from their readers. Generally speaking, it seems that fashion bloggers receive more positive comments and are more respected the closer they stay to the normative feminine ideals, but if they deviate from that norm, they may sometimes attract a larger number of readers.

Commenting is an important part of the blog culture. The upper secondary school girls I interviewed said that they regularly comment on other people's pictures and blogs, not just on those belonging to their closest friends. One of the girls described to me how commenting could be used as a creative tool for building up networks in which one's own blog is strategically woven into part of a larger social network. This strategy of commenting works by attracting new readers to one's own blog, is a way of building up and extending one's own network.

According to the Swedish gender researcher, Fanny Ambjörnsson, the *homosocial* reflecting of one's self—the need to be compared, assessed and appreciated by other girls—is a typical feature of young women's forming of identity. [20] In Swedish fashion blogs, identity is often manifested through fashion, culinary culture, or an interest in design. [21] Girls mostly read other girls' blogs and the secondary school pupils I interviewed mentioned this phenomenon more or less in

passing, as if they had not really reflected on why this was so; to these girls, it only seemed the case that girls in general were more interested in other girls' pictures and narratives.

Even though the Internet is a completely new social field that might be characterized by irrationality, fragmentation, and the breaking up of traditional hierarchies, it would nevertheless seem that most of the youngsters who present themselves on the Net endeavour to appear as "normal" as possible in relation to prevailing gender norms. [22] The feminine gender norm appears to encompass certain common human characteristics but exclude others that do not seem to fit, for instance, outgoing self-confidence or physical aggression. The traits that do not fit in with femininity must be either concealed or be expressed in a different way. Girls have, according to American author Rachel Simmons, special "code words" which are used to set up behaviour norms among themselves in a *homosocial* female network. [23] For instance, an example of that type of coded message is when girls say that other girls "think that they are somebody" meaning between the lines, that they think they are somebody more important than others. According to Simmons, girls can contribute to the maintaining of the predominant gender order by actively repressing each other's self-assertion with the help of various behaviour norms. This often results in girls often being forced to conceal the very behaviour they should need to become successful in a competitive society. Female fashion bloggers risk being subjected to double punishment: partly sexist oppression from males in the form of negative comments; partly contemptuous "coded messages" from other girls. This is perhaps because bloggers, as female entrepreneurs are self-assured, outgoing, and self-assertive-traits that generally do not fit into the feminine norm.

Identity Online

But why do girls and boys choose different forms of socializing on the Net? Why do these *homosocial* environments arise, and why is it so hard to enter the other party's social space? One banal explanation as to why so few girls take part in multiplayer online games could be that there are not so many characters for the girls to identify themselves with, something a project manager whom I interviewed pointed out to me. She argued that games "help to maintain ideals that people in other contexts are trying to break down."

Even if girls can ignore the fact that there is no character with which they can identify, other problems remain in the gaming world. Girls, who choose to take part in multiplayer games, are likely to be met with different forms of discrimination and sexualization on the grounds of assumed gender. [24] Gender related discrimination appears to be a common occurrence when females are in a male-dominated setting no matter whether it's on the Net or IRL. [25] Changing one's gender identity is a strategy sometimes used by girls playing multiplayer games online, in order to avoid discrimination. Endeavouring to be "one of the guys" is a relatively common strategy used by women in male-dominated environments IRL as well. [26]

Although recent research has shown that the Net is a rather gender normative place, there may be new things to be discovered and learned about norms and gender by experimenting with different identities online. [27] Several of my participants have devoted themselves to the artistic examination of the making of gender and the creating of identity on the Net. One of the upper secondary school girls I interviewed described how she had spent several years studying gender-crossing digital identities in different social forums on the Internet. She described how she was treated completely differently depending on whether her "fake user" was as a girl or a boy. She My informant also described how her experiences as different fictive characters had given her new insights into human relationships and

inspiration to create characters in her manuscript writing. One of the art students I interviewed, told me about an artistic project that she had worked on for some years where she created a persona on the Internet that was partly fictive. During that period of her life, her artistic work was made visible solely on the Net. With the help of pictures and narratives, she explored the field in order to create identity and myths about the persona.

Even if a digital change of gender only works in certain ways, it is still a strategy that can give new insights into how identity is created and how normative prejudices work. However, some experience of life is needed in order to successfully change gender or identity on the Internet. It is difficult for young people playing multiplayer games online to fool older players that they are the same age. They rapidly expose themselves because of their lack of social competence. However, it does seem possible for a female player in her late teens, or older, to play under a false male identity without being exposed. The reason why girls choose to do a digital gender swap is because otherwise, as a minority group in online gaming environments, they are likely to be discriminated against. [28] One disadvantage, of concealing their female identity could be the risk that playing and socializing will then be on entirely male normative terms.

Aesthetic Technology

For many young girls blogging is not just about writing some kind of public diary, but a way of communicating identity, style or, using the term of British sociologist Beverly Skeggs, "female cultural capital" through all the possibilities that new media has. [29] Photography and digital image processing is a current growing hobby among young Swedish girls, which proves in the fact that it is, according to my experience, fairly easy to attract female students to such courses in contemporary Swedish online education. Perhaps this is related to the use of the technology in photo blogging. However, fewer female students apply for courses in creative programming. According to several of my interviewees, girls prefer a planned route of learning with a set objective in sight. Girls seem to need to set up a personal goal in order to feel that learning technology is meaningful. When it comes to digital technology, it would appear that the goal is often artistic and the technique is a way of achieving aesthetic expression. In the contemporary Swedish blogging scene, girls communicate mainly with text and photographs in interaction, using pictures which they have produced themselves. Common subjects of girls' blogging are e.g. fashion, food, design or styling, all themes connected to the concept of good taste and commonly expressed with beautiful images in advertisements and magazines.

Seen from a critical perspective, one might assume that there is no gender normative gain in learning technology only for its own sake, as girls are not expected to be "technical" within the stereotype feminine norm. For boys, however, it may be worthwhile learning technology without asking why, or wondering what use they will have of that technology. In the male "hegemonic" or dominating gender norm, technological knowhow is an important trait. [30] Boys are expected to understand all kinds of technological equipment simply because it is part of "being masculine." That may be the reason, why many boys on their own initiative, read through camera manuals or books about programming. [31] It is also common for people to expect that men will spontaneously be able to explore technically advanced equipment without supervision, and understanding it, as if technical knowhow was a "natural" male trait. [32]

Girls seem to "do gender" by communicating and confirming cultural similarity, and thereby creating the networks, that are an important part of the process of forming a feminine identity. [33] Feminine identity is formed on the Net in relation to other users, through

texts and images, where expression of style and taste are continually commented on, reflected and approved, in the first instance, by other girls. During the first half of the 19th century, femininity was linked to "beauty" and different forms of aesthetic expression by an emphasis on appearance and a demand for gracefulness. [34] The contemporary homosocial network seems to be confirmed by young girls still showing each other that they are well informed about what the German 19th-century philosopher Immanuel Kant referred to as "beauty." According to Kant, "beauty" is "beautiful" in more or less the same way as an object that is suited to its purpose; it possesses a "necessary" delight. However, that which is beautiful lacks purpose since it is not intended to be of any use; according to Kant, beauty is founded on an "aesthetic judgement" that is "not logical." [35]

When girls write, take photographs and digitally process their pictures in order to put them on the net, they often present an image of their life that has been adapted and put right. [36] In that perspective, it might be worth the effort and time that it takes to learn advanced digital image processing, as it brings tremendous opportunities to beautify the image of your everyday reality. Aesthetic preferences, or an interest in "beauty," seems to be an important part of the feminine "doing gender." If one uses the dichotomist model for how gender is constructed, gender is then made determined through differences and opposites. Expanding this concept, a lack of interest in beauty, not caring about something's appearance, or holding the opinion that functionality is the most important aspect, could be linked to masculinity.

But perhaps beauty and function are dependent on each other? Ideas like this were expressed back in the 19th century by designer and utopian William Morris, a leader in the English Art and Crafts movement. [37] Could it perhaps even be the case that some people find it difficult to use a digital tool that is "not beautiful," a design that has been created without considering aesthetic preferences, or where too much attention has been paid to function instead of form? Some of my research participants described how they had chosen not to use functional digital technology, precisely because it was "ugly" or "boring."

Trying to understand the issue of "form" or "beauty" in software design, from a gender perspective, I have come up with a hypothesis, which I call "Aesthetic Technology." The term is inspired by the work of the American psychologist Sherry Turkle. [38] In the 1980s, when Turkle studied children who were doing computer programming, she discovered differences in how boys and girls thought and related to the computer. It emerged that the girls had a different approach to the machines and they attached greater value in adding personal features to the programs. This meant they made use of bugs, or allowed errors to remain, since they thought this would make the program and the computer more "alive." According to Turkle, the girls used an "aesthetic programming style," as they thought more like artists. These girls created programs where the code was just as sophisticated as the boys' code, but with completely different solutions. As an intellectual experiment, if we try not to belittle or idealize the traits or interests that are associated with normative femininity, perhaps we can instead find new approaches to how girls handle technology. A starting point could be to examine how they assess, develop, and try to improve existing technology, by using it in novel ways, or in ways that the technology was not initially intended for. One example of this kind of progression would be how female photographers like e.g. Sophie Calle, Barbara Kruger or Cindy Sherman renewed the field of contemporary artistic photography in the 1980s, shifting focus of the media from technical and documentary to conceptual and aesthetical. [39]

How do girls learn new technology?

In a learning situation, it is sometimes apparent that boys and girls use different strategies when it comes to learning new technology. With some prejudice, it can be said that girls learn new technology by asking for help, while boys look for the answers themselves on the Net. Girls are more focused on learning technology through a dialogue than boys are. [40] Males tend to spend more time "tinkering" as in playfully investigating new interfaces on their own, than females do, when the task is to solve problems using digital software. [41] Several of the women I interviewed, who themselves have experience from running courses, describe a phenomenon of gender differences in learning strategies. For some reason, it seems to be more difficult for girls to take the initiative to search themselves for answers on the Net. However, several of the girls I talked to described how liberating it had been, when they suddenly realized that all the information they needed, was in fact available on the Internet. Perhaps it is a matter of habit, insight, or being informed; perhaps, it is a matter of changing gender-linked stereotype patterns of learning.

Getting stuck and having technical problems seems to be a rather common problem when females try to teach themselves advanced digital technology and do not have adequate support, and the gender-related expectations that "girls are not able to learn new technology" might take over. The female game designer whom I interviewed told me that it is very common for girls to drop out of the game design study programs before graduating and very few girls apply for and get a job within the field after completing their studies. She also told me about her experiences from her time as a game design student. The study program included a course in game programming which she did not pick up as fast as the boys did, as many of them had previous experience in programming. When she told the course leaders that she was considering dropping out of the programming course, she was not offered extra support. Rather, they supported her dropping the course, by explaining that she would still pass the study programme as a whole. She told me that she decided to drop out of the programming course because it felt meaningless to sit through lessons where the level of teaching was way above the level she was at.

Recent studies done by the Swedish Schools Inspectorate show that expectations from teachers influence to a high degree how pupils perform. [42] In this case, we must consider what expectations we have regarding women's technical knowledge, and how that affects female students in game design programs. One of the participants described her experiences from a course in stage technology. Every time she had a technical problem and asked for help, she had to point out that she wanted to be taught how to solve the problem, otherwise the teachers just quickly solved the technical problem for her without telling her how it was done. With that sort of pedagogy, "asking for help" does not result in any learning process, and if boys are used to being treated like that by their technology teachers, it is not surprising that they prefer to search for answers to problems themselves.

Digital Gender order

Computers are nice, clean machines that do not make a noise and you do not have to be physically strong in order to program them. Even so, almost exclusively men populate the gaming industry. In 2009, 90% of the employees in the Swedish gaming industry were males. [43] The gaming industry can be viewed as part of the larger field of technology, which has traditionally been regarded as a masculine field, just like the field of natural sciences. [44] One way of studying male-dominated fields is to look at them as *power fields*, an approach adopted by the French sociologist Michel Foucault. [45] Power fields are constructed and preserved by a certain group of people marking out the field in various ways as being their territory, in relation to "the others" who do not fit in. One of the problems with

digital equality might be that women view technology in a different way than men, and that women's views and ideas about technology often are ignored. It is not only men who maintain the gender order—much of the resistance to change lies with the women's own view of themselves. [46] Reducing or belittling one's own competence is a common expression of female subordination, and this probably happens at a subconscious level. When I asked my female participants to describe their technical knowhow, the answers I received indicated that they themselves do not rate their knowledge very highly. This is something that is apparent in both students' and professionals' descriptions of their own technical competence.

Women in our society handle and use technology daily but, generally speaking, women do not describe their own competence as being particularly technical, perhaps precisely because technology has such a strong link to masculinity. [47] Masculine and feminine traits are rated differently and a "hierarchical gender order" often means female competence and female-dominated fields are belittled. [48] There have been some pedagogical attempts to teach female students technology by educating them in special women classes. Although the girls in the test-group performed better in the *homosocial* learning environment, they would nevertheless not choose an "all female" technical education, because that kind of course of study would have lower status and there would be a risk that employers would view it as being inferior. [49]

One of the girls I interviewed expressed similar anxiety that the hierarchical gender order, could lead to courses intended "only for girls" being marked as inferior to courses that are aimed at both girls and boys. Generally speaking, girls are not prepared to attend "technology girl schools" even if they would actually learn more. [50] The problem is probably a structural dilemma where female-dominated areas in general are awarded lower status in accordance with the principle of hierarchical gender order. This means that a masculine coded field is rated higher than a feminine coded field. There is a risk that the masculine coded field will be weakened and lose status when women begin to encroach on it. Men who work within a masculine coded field easily end up in a situation where they join forces to defend their field from intruders, a defense probably working on an seemingly "instinctive," or subconscious level. [51]

There are many different factors that make it hard for girls to penetrate a male-dominated area like digital technology. Through my interviews, however, I have met several women who have been very determined to working within the field of creative digital technology. When their childhood and adolescence were mentioned, it was clear that their parents had supported and encouraged their interest in technology. These women have high self-confidence and have completed technical study programs. After finishing their education, they had applied for jobs in the field but were treated with polite skepticism and, after many interviews and some project work, were not able to establish themselves at any existing companies. In order to be able to do any kind of work at all connected to their education, these women have instead been forced to set up their own organization, often with the help of other women in a similar situation. Several of my participants have been working as managers of their own projects. Instead of just getting a job in the new creative technology arena, related to their studies, they had to start off by trying to create their own opportunities, necessary prerequisites for women in general, to be able to compete in the male-dominated labor market. It would appear that having personal experience of gender discrimination could, at best, be a starting point for women to initiate equality projects and act as entrepreneurs.

Conclusion

The gender norms that prevail in society appear to be reflected in the Net cultures of young people, as "digital gender norms." The communication of girls and boys on the Internet is manifested in different forms of socializing, linked to *homosocial* gender norms, even though the Net is a meeting place that is supposed to be "disembodied." Boys dominate online gaming environments, and girls seem to prefer the blogosphere. Blogging could be viewed as a new type of female entrepreneurship with users who continually develop new creative strategies for network communication.

While working with the question of "digital gender," I have developed the hypothesis of "Aesthetic Technology," namely that girls often have an artistic approach towards technology. Girls often choose to learn technology for a purpose, planning to create something with that special technique, and their goal often have aesthetic preferences. One example is the common use of digital photography within the blog culture, where girls learn advanced image processing in order to beautify the image of their everyday life.

For a girl to "become technical" is problematic, according to the crossing of gender norms. Even though young girls are often just as interested in technology as young boys are, it is more difficult for them to retain and fit their interest in technology into the normative femininity that they are expected to adapt to, as they go through puberty and enter the adult world.

The female creators whom I have interviewed all had long-term experience working in technical fields such as digital technology, web development and the gaming industry, yet they do not describe themselves as being particularly technical. When it comes to technical knowhow, there are normative expectations regarding how technical competence should be expressed. Knowledge or innovations which are manifested in a way that is not in line with the dominant norm are often not made visible.

Since it is hard for females to establish themselves in the existing male-dominated corporate culture, girls who study within the field of creative digital technology are often forced to begin their career by working with questions of equality, instead of practicing and forging ahead in their profession. At best, they become entrepreneurs who, together with other female creators, run innovative projects that in the long run expand their professional field. My hope is that the result of this work will contribute to this new growing field of research in digital cultures, where questions concerning gender in creative digital technology will be problematized, in search of a new digital feminism.

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